

ABSTRACT OF THE DISCLOSURE

In accordance with the present invention, there are provided novel receptor proteins characterized by having the following domains, reading from the N-terminal 5 end of said protein:

an extracellular, ligand-binding domain,  
a hydrophobic, trans-membrane domain, and  
an intracellular, receptor domain having serine kinase-like activity.

10 The invention receptors optionally further comprise a second hydrophobic domain at the amino terminus thereof. The invention receptor proteins are further characterized by having sufficient binding affinity for at least one member of the activin/TGF- $\beta$  superfamily of polypeptide 15 growth factors such that concentrations of  $\leq$  10 nM of said polypeptide growth factor occupy  $\geq$  50% of the binding sites of said receptor protein. A presently preferred member of the invention superfamily of receptors binds specifically to activins, in preference to inhibins, transforming growth 20 factor- $\beta$ , and other non-activin-like proteins. DNA sequences encoding such receptors, assays employing same, as well as antibodies derived therefrom, are also disclosed.